UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

MAR 28 2002

Mr. Gary M. Carlton
Executive Officer
Central Valley Regional Water Quality Control Board
3443 Routier Road
Sacramento, CA 95827-3098

Dear Mr. Carlton:

Thank you for submitting the total maximum daily load (TMDL) to address selenium impairment of the Lower San Joaquin River in the San Joaquin Basin, California. The submission letter to EPA is dated February 28, 2002. Based on our review, EPA concludes that the TMDL adequately addresses the pollutant of concern and, upon implementation, will result in attainment of water quality standards. The TMDL includes allocations as needed, takes into consideration seasonal variations and critical conditions, and provides an adequate margin of safety. The State has provided adequate opportunities for public review and comment on the TMDL and the Basin Plan Amendments on which it is based. All required elements are adequately addressed; therefore, the TMDL is hereby approved.

The attached review discusses the basis for the TMDL approval decision in greater detail. We appreciate the Regional Board's work to complete and adopt the TMDL and look forward to our continuing partnership in TMDL development. If you have questions concerning this approval, please call me at (415) 972-3572 or Debra Denton at (916) 341-5520.

Sincerely,

for Alexis Strauss
Director
Water Division

Enclosure

cc: Stan Martinson, SWRCB

Staff Report Supporting Approval of TMDL:
Selenium- Lower San Joaquin River, CA
March 28, 2002

Background

The Lower San Joaquin River was listed on the state's 1998 Clean Water Act 303(d) list for impairment due to selenium. The Clean Water Act requires TMDLs for waters on the 303(d) list.

In 1996, Central Valley Regional Water Quality Control Board (CVRWQCB) developed Basin Plan Amendments for the Control of Agricultural Subsurface Drainage to control selenium in the San Joaquin River Basin. The CVRWQB adopted the amendments under resolution 96-147. The State Water Quality Resources Control Board subsequently adopted the amendments under resolution 96-078. These Basin Plan Amendments included provisions for the control of selenium in the Lower San Joaquin River, although they were not designed to adopt the TMDL itself. EPA Region 9 has previously approved these amendments.

The 1996 Basin Plan Amendments included most components of a TMDL for selenium in the Lower San Joaquin River. The CVRWQCB has, therefore, based the Lower San Joaquin River TMDL for selenium on the 1996 Basin Plan Amendments. Implementation measures were included in the Basin Plan Amendments and in the process of being implemented.

TMDL Review

On February 28, 2002, the CVRWQCB submitted the final TMDL to EPA for approval. Pursuant to Clean Water Act Section 303(d) and 40 CFR 130.2 and 130.7, EPA reviewed the State TMDL submittal package to ensure that all required TMDL elements have been adequately addressed.

EPA's review is presented in the attached checklist for the Lower San Joaquin River, which documents EPA's findings that all required elements and an adequate level of technical justification for each element are included in the State TMDL submission. Therefore, the TMDL should be approved.

TMDL Checklist

State: California
Waterbodies: Lower San Joaquin River
Pollutant(s): Selenium (Se)
Date of State Submission: February 28, 2002
Date Received By EPA: March 28, 2002
EPA Reviewer: Debra Denton

Review Criteria	Comments
1. Submittal Letter: State submittal letter indicates final TMDL(s) for specific water(s)/pollutant(s) were adopted by state and submitted to EPA for approval under 303(d).	Submittal letter, p. 1: TMDL is for Selenium in the Lower San Joaquin River (SJR). Lower SJR was listed on the State's 1988 303(d) list for impairment due to selenium. The TMDL is a distillation of information from the 1996 basin plan objective (BPA) for Se objectives and implementation plan for achieving those objectives. Amendment was approved by USEPA on May 24, 2000.
2. Water Quality Standards Attainment: TMDL and associated allocations are set at levels adequate to result in attainment of applicable water quality standards.	TMDL staff report dated August 2001, p. 6 and 10. TMDL and load allocation are set on a mass loading basis, based on the numeric targets which are set equal to the numeric objective. TMDL will result in attainment of numeric objective with less than one in three year excursion when fully implemented.
3. Numeric Target(s): Submission describes applicable water quality standards, including beneficial uses, applicable numeric and/or narrative criteria. Numeric water quality target(s) for TMDL identified, and adequate basis for target(s) as interpretation of water quality standards is provided.	TMDL staff report dated August 2001, pg3. TMDL applies as the numeric target the existing numeric objective, 5 *ug/l* as a four-day average. USFWS supported the 1996 BPA.
4. Source Analysis: Point, nonpoint, and background sources of pollutants of concern are described, including the magnitude and location of sources. Submittal demonstrates all significant sources have been considered.	TMDL Staff report dated August 2001, pg 6. TMDL identifies all likely sources and summarizes data describing Se concentrations associated with sources. Selenium is a naturally occurring element in the soils of the watershed. Selenium is added to the Lower SJR from a wide range of sources including subsurface agricultural return flows, surface agricultural return flows, wetland discharges, groundwater accretions, and tributary inflows. Subsurface agricultural drainage from the Drainage Project Area, for which TMDL load limits are being established, is however the primary source.
5. Allocations: Submittal identifies appropriate wasteload allocations for point sources and load allocations for nonpoint sources. If no point sources are present, wasteload allocations are zero. If no nonpoint sources are present, load allocations are zero.	TMDL Staff report dated August 2001, pg 14-15. TMDL and load allocations (Las) are expressed as annually and seasonally variable mass load limits. The model used to develop these load limits is a simple spreadsheet model that calculates monthly Se load allocations for the primary nonpoint source to the SJR based on critical flow conditions for the SJR at Crows Landing. There are no point sources of selenium so the waste load allocations are zero.

6. Link Between Numeric Target(s) and Pollutant(s) of Concern: Submittal describes relationship between numeric target(s) and identified pollutant sources. For each pollutant, describes analytical basis for conclusion that sum of wasteload allocations, load allocations, and margin of safety does not exceed the loading capacity of the receiving water(s).	TMDL staff report dated August 2001. The TMDL is based on a simple spreadsheet model that computes allowable loads by multiplying the numeric target by the flow level for each season and year type. Therefore, the TMDL is based on a direct and exact quantitative linkage between the applicable standard, numeric target, and water body loading capacity.
7. Margin of Safety: Submission describes explicit and/or implicit margin of safety for each pollutant.	Staff report dated August 2001 pg 21. TMDL provides an explicit 10% MOS is applied to account for errors in flow measurements and selenium concentrations, and uncertainty in the TMML analyses. The selected approach of calculating different TMDLs and allocations for different flow regimes tailors the TMDLs to different receiving water conditions and thereby reduces the level of uncertainty about whether the TMDL will result in standards attainment.
8. Seasonal Variations and Critical Conditions: Submission describes method for accounting for seasonal variations and critical conditions in the TMDL(s)	Staff report dated August 2001, pg 16, TMDL considers annual and seasonal variations in flow regimes by calculating design flows-- the low flow conditions for which an acceptable rate of excursion (one in three year) from the numeric target can be achieved in the SJR for 1969 through 1999.
9. Public Participation: Submission documents provision of public notice and public comment opportunity; and explains how public comments were considered in the final TMDL(s).	The Regional Board held public workshops and hearings for the 1996 Basin Plan Amendments for the control of Agricultural Subsurface Drainage Discharges. The State Board also held approval hearings. Adoption of the Basin Plan Amendment in 1996 enabled implementation of the Lower SJR TMDL. Although these actions were not advertised as a TMDL, all components of the TMDL were part of the Basin Plan Amendments. The State provided ample opportunities for public review of and comment on the TMDL provisions. The State demonstrated that it considered public comments (see responsiveness summary for BPA). Additional meetings were held as part of the *Environmental Impact Statement and Environmental Impact Report for the Grassland Bypass Project that was prepared for the infrastructure needed to continue implementation of the selenium load reductions of this TMDL.* The Regional Board also held a workshop on May 16, 2001 where the TMDL was presented to interested parties and the public was given the opportunity to comment. The Regional Board prepared a responsiveness summary demonstrating how public comments were considered in the final TMDL decision.
10. Technical Analysis: Submission provides appropriate level of technical analysis supporting TMDL elements.	Staff report and responsiveness summaries provided detailed technical justifications for each TMDL element.

Note: **The following criteria do not apply to all TMDLs, but must be applied in the situations noted.**	
11. Monitoring Plan for TMDLs Under Phased Approach (where phased approach is used): TMDLs developed under phased approach identify implementation actions, monitoring plan and schedule for considering revisions to TMDL.	**N/A –** This is not a phased TMDL.
12. Reasonable Assurances (for waters affected by both point and nonpoint sources): Where point source(s) receive less stringent wasteload allocations because nonpoint source reductions are expected and reflected in load allocations, implementation plan provides reasonable assurances that nonpoint implementation actions are sufficient to result in attainment of load allocations in a reasonable period of time. Reasonable assurances may be provided through use of regulatory, non-regulatory, or incentive based implementation mechanisms as appropriate.	N/A – There are no point sources nor WLAs addressed in this TMDL.
Implementation Plan Review Criteria Pursuant to 40 CFR 130.6 and 303(e)	
13. Clear Implementation Plan: Submittal describes planned implementation actions or, where appropriate, specific process and schedule for determining future implementation actions. Plan is sufficient to implement all wasteload and load allocations in reasonable period of time. TMDL(s) and implementation measures are incorporated into the water quality management plan. Water quality management plan revisions are consistent with other existing provisions of the water quality management plan.	The Water Quality Management Plan (Basin Plan) has been revised to incorporate the Se Objective and associated implementation provisions for the Lower SJR area (see BPA submitted with TMDL). It is expected that the existing load allocations are sufficient to provide complete compliance. The Basin Plan amendments addressing selenium in the Lower SJR area are consistent with the other selenium management actions included in the Plan, and the TMDL implementation plan is generally consistent with other existing provisions of the Basin Plan (e.g., water quality standards and implementation provisions). The implementation provisions provide reasonable assurance that the needed Se loading reductions will occur because the plan establishes an enforceable mechanism under which the dischargers are required to carry out actions sufficient to implement their load allocations.